

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :
Galyn A. Schulz : Examiner: R.L. Yan
U.S. Serial No. 09/686,210 : Group Art Unit: 2854
Filed: October 11, 2000 :
Docket No. 2107 (FJ-98-4) :
For: APPARATUS AND METHODOLOGY :
FOR EMBOSSING FIBROUS WEBS :
CONTAINING CONTAMINANTS :

Assistant Commissioner for Patents
Washington, D.C. 20231

FAX COPY RECEIVED

JUN 27 2002

TECHNOLOGY CENTER 2800

DECLARATION OF GALYN A. SCHULZ

Sir:

Galyn A. Schulz, inventor of the subject matter of the above-noted case, makes the following statements in support of patentability pursuant to 37 CFR §1.132:

1. That he has worked in the paper manufacturing industry for many years including working in connection with embossing of paper products for over twenty-five (25) years. In the course of his work in the paper industry he has been awarded more than seventy (70) patents, a listing of which is attached as Exhibit 1.
2. That he understands from Counsel that the claims of the above-noted patent application have been rejected over prior art as obvious. The prior art cited by the

Examiner included his own United States Patent No. 5,269,983 as well as United States Patent No. 5,215,617 to Grupe.

3. That Claim 1 of the above-noted patent application, as amended recently, reads as follows:

A method for embossing a fibrous web incorporating recycled pulp containing contaminants to improve the bulk and softness of the web by passing the web through a nip formed by a pair of rotating rollers, wherein the contaminants will not damage the rollers, the method comprising:

- a) providing a first embossing roller having an outer surface, said outer surface having a plurality of male protuberances thereon corresponding to a desired embossed pattern;
 - b) providing a second embossing roll having an outer surface having a plurality of female recessed portions which are matched to the male protuberances of the first roll;
 - c) wherein one of said first and second embossing rollers has a Shore A hardness of 40-65 and the other roller has a Shore A hardness of at least about 90; and
 - d) placing the rolls in contact to form a nip between the rolls, with the protuberances of the first roll entering the recesses of the second roll as the rolls rotate together; and passing a fibrous web through the nip formed by the rolls to emboss the web wherein the roller having the Shore A hardness of 40-65 will deform if any contaminants are encountered in the fibrous web such that a fibrous web including recycled pulp containing contaminants may be embossed without causing excess wear or damage to the embossing rollers.
4. That, in his experience, the claimed method surprisingly protects an embossing station with mated embossing rolls from damage from contaminants, including damage from objects of hard material such as paper clips, coins fed to the embossing nip. That, in his experience, such large objects cause significant damage to conventional matched embossing stations by damaging embossing elements to the point that a production line must be shut down and repaired. For example, a relatively small piece of metal causes immediate and severe damage. It has been

unexpectedly found that the method of the invention is extremely robust with respect to contaminants as further explained below.

5. That he has personally observed the operation of an embossing station such as described in Claim 1 above; that is, a roll having a Shore A hardness of greater than 90 was matched with an engraved rubber roll having a Shore A hardness of between 40 and 65, and the rolls were biased against each other and used to emboss paper sheet. More specifically, a female sleeve was engraved on a sleeve of Shore A 100 hardness and matched with a male roll made with a sleeve of a soft rubber material having a Shore A hardness of 60.
6. That during such operation, various objects were purposely fed to the embossing nip to test its ability to pass contaminants without damage to the embossing station, including such objects as paper clips and coins.
7. That such objects fed to a conventional embossing nip would cause extensive damage to matched embossing rolls, a steel/steel matched set, for example; however, it was surprisingly found that neither paper clips nor coins damaged the embossing rollers when the method of the invention of the above-noted patent application was employed. Following is an excerpt from a research report detailing operation of the method of the invention of the above-noted patent application:

As part of the trial items such as a paper clip, a dime, and wadded paper were passed through the nip of the 100/60 durometer sleeves. The items were taped to the emboss roll and ran through the emboss nip five times. The emboss sleeves were examined with a 40X microscope and no damage could be detected on either the 100 durometer female sleeve or the 60 durometer male sleeve. The emboss gap was set at 26 mils which was the emboss gap required to achieve the targeted 1-ply tissue attributes. Also during the set up of the 100/60 durometer emboss sleeves there were some set up errors made, which results in the rolls being run mismatched at a supposed 0.010" emboss gap. Neither the 100 durometer female sleeve nor the 60 durometer male sleeve was damaged.

8. That despite his more than twenty-five (25) years of experience with embossing, he found it surprising that the method of the invention could be employed to withstand contaminants such as coins fed to the nip without damage to the embossing rollers. Such damage is difficult (as well as expensive) to repair and leads to significant down time of expensive machinery.
9. The undersigned Declarant declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the subject application or any patent issuing thereon.

Dated 6-27-02


Galyn A. Schulz

EXHIBIT 1

6,368,454	Method of making soft bulky single ply tissue
6,365,000	Soft bulky multi-ply product and method of making the same
6,361,601	Method of applying adhesive to a patterned web and application unit for selectively applying such adhesive
6,334,931	Soft, bulky single-ply tissue having a serpentine configuration and low sidedness
6,328,849	Method of manufacturing a soft, bulky single-ply tissue having a serpentine configuration and low sidedness
6,287,421	Web embossing method
6,283,018	Method of embossing a web and cleaning deposits from embossing roll
6,277,467	Soft, bulky single-ply tissue having a serpentine configuration and low sidedness and method for its manufacture
6,277,226	Method of processing laminated embossed webs having equal embossed definition
6,267,837	Method of making container with insulating stock material
6,250,902	Embossing roll cleaning apparatus
6,224,954	Insulating stock material and containers and methods of making the same
6,193,838	Soft-single ply tissue having very low sidedness
6,183,599	Process for manufacturing soft-single ply tissue having very low sidedness
6,173,496	Embossing system including sleeved rolls
6,143,131	Soft bulky single-ply tissue having low sidedness and method for its manufacture
6,113,740	Soft single-ply tissue having very low sidedness
6,103,063	Soft-single ply tissue having very low sidedness
6,093,256	Embossing roll cleaning method
6,068,731	Soft, bulky single-ply tissue having low sidedness and method for its manufacture
6,051,104	Soft single-ply tissue having very low sidedness
D422,416	Repeating pattern for an embossed paper product
6,033,761	Soft, bulky single-ply tissue having low sidedness and method for its manufacture
6,033,523	Method of making soft bulky single ply tissue
D421,341	Pattern for a paper product

D420,808	Repeating pattern for an embossed paper product
D419,782	Pattern for absorbent sheet material
D414,041	Repeating pattern for an embossed paper product
D411,049	Repeating pattern for an embossed paper product
D410,337	Repeating pattern for an embossed paper product
D409,000	Pattern for an embossed paper product
D407,902	Repeating pattern for an embossed paper product
D407,225	Repeating pattern for an embossed paper product
5,882,479	Soft single-ply tissue having very low sidedness
D406,791	Repeating pattern for an embossed paper product
5,874,156	High softness embossed tissue
D405,269	Pattern for a paper product
5,851,629	Soft single-ply tissue having very low sidedness
D395,553	Surface pattern for a paper product
5,755,654	Method and apparatus for pinch perforating multiply web material
D393,949	Pattern for an embossed paper product
D393,370	Pattern for an embossed paper product
5,727,458	Method and apparatus for contour multi-level embossing with perforation bonding in selected spaced locations
5,695,607	Soft-single ply tissue having very low sidedness
5,620,776	Embossed tissue product with a plurality of emboss elements
5,597,639	High softness embossed tissue
D377,419	Paper product
5,573,830	High bulk embossed tissue with nesting prevention
D371,910	Embossed paper product
5,490,902	Strength control embossing and paper product produced thereby
5,436,057	High softness embossed tissue with nesting prevention embossed pattern
D354,856	Embossed tissue
D354,855	Embossed tissue
D354,854	Embossed tissue
D354,853	Embossed tissue
5,383,778	Strength control embossing apparatus
D352,833	Embossed facial tissue sheet
5,269,983	Rubber-to-steel mated embossing

5,093,068	Method of producing multi-ply embossed fibrous webs
5,091,032	Multi-nip high-speed paper converting
5,030,081	Multi-ply embossed fibrous sheet and apparatus for producing same
4,927,588	Method multi-ply embossed fibrous sheet
4,803,032	Method of spot embossing a fibrous sheet
4,659,608	Embossed fibrous web products and method of producing same
D288,150	Embossed paper toweling
4,376,671	Multi-ply fibrous web structure and its manufacture
D267,907	Embossed paper toweling
D267,361	Embossed paper toweling
4,326,002	Multi-ply fibrous sheet structure and its manufacture
4,325,773	Apparatus for manufacturing fibrous sheet structure
4,325,768	Method of manufacturing fibrous sheet structure
4,320,162	Multi-ply fibrous sheet structure and its manufacture
D260,193	Embossed bathroom tissue sheet
D258,154	Embossed bathroom tissue sheet